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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/090,100	02/28/2002	Rajesh Mongia	49598-00006USPT	4487

7590 06/12/2003

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EXAMINER
HAM, SEUNGSOOK

ART UNIT	PAPER NUMBER
2817	

DATE MAILED: 06/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/090,100	MONGIA, RAJESH
	Examiner	Art Unit
	Seungsook Ham	2817

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 April 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8,10 and 12-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *1-6, 8, 10, 12-14, 16-22* is/are rejected.

7)☐ Claim(s) *7 and 15* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Information Disclosure Statement

The listing of references in the specification (see page 8) is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

It should be noted that PTO has not received any additional Information Disclosure Statement with the Amendment (see REMARKS, page 8, filed on 4/7/03), thus, there are no additional art to be considered at this time.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-6, 8, 10, 12-14, and 16-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shen (US '404) or Chang et al. ("A Modified Parallel-Coupled Filter Structure...and Response Symmetry") in view of Yamamura (US '634).

Shen (figs. 3A, 3B) discloses a high frequency filter comprising: an input portion 35, and a plurality of resonators 33, 34, 334a, 33a are disposed on a top side of a dielectric substrate 30; wherein at least one of the input portion 35 and first resonator 33

is spaced such that it is transversely coupled from another resonator portion 39; the first resonator 33 is longitudinally spaced 38 from another resonator 34; a ground plane 31 on a bottom side of the dielectric substrate. Moreover, Shen discloses the filter is a bandpass, microstrip and operates at frequencies substantially between 1 GHz and 100 GHz (fig. 13B).

The subject matter of claim 18 is shown in figure 4A where the end of the first and last resonators has different width so that the input portion is disposed within the resonator.

Chang et al. (fig. 1(b)) discloses a high frequency filter comprising: an input portion (the first microstrip line) and a plurality of resonators (the microstrip resonators between the first and the last microstrip lines); wherein at least one of the input portion and first resonator is spaced such that it is transversely coupled from another resonator portion (the transverse gap between first two microstrip lines); the first resonator is longitudinally spaced from another resonator $S_{1,3}$, $S_{n-2,n}$. It is inherent that the microstrip line is disposed on a dielectric substrate and a ground plane on a bottom side of the dielectric substrate to form as a microstrip line structure. Moreover, Chang et al. discloses the filter is a bandpass, microstrip and operates at frequencies substantially between 1 GHz and 100 GHz (fig. 3 and TABLE 1).

The subject matter of claim 18 is also shown in figure 1(b) where each microstrip line resonator has a stepped portion.

Shen and Chang et al. do not show an enclosure substantially covering the plurality of resonators. However, it is well known in the art to provide an enclosure to

cover the filter/resonator structure for protection. Moreover, Yamamura (figs. 2A-2B) discloses a strip line type microwave circuit 3 having an enclosure 30, 19 including a carrier plate 1 to cover the microwave circuit and operates as a pseudo waveguide having a cutoff frequency that is higher than an operating frequency of the microwave circuit.

It would have been obvious to one of ordinary skill in the art to provide an enclosure operates as a pseudo waveguide having a cutoff frequency that is higher than an operating frequency of the microwave circuit in the device of Shen or Chang et al. to minimize the noise and stabilize the circuit characteristics (col. 3, lines 55-63).

Regarding claim 14, it would have been obvious to one of ordinary skill in the art to also provide a carrier plate to support the microstrip filter in the device of Shen or Chang et al. since such design technique is well known in the art and also shown by Yamamura.

Regarding to claim 12 and 21, it would have been obvious as a matter of design choice to provide the enclosure with open-ended near the input or output portion in the modified device of Shen or Chang et al. since such enclosure structure is well known and such modification does not alter the filter characteristics of the device.

Claims 1-6, 8, 10, 12-14, 16, 17, and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ye et al. (US '461) in view of Yamamura (US '634).

Ye et al. (fig. 6) discloses a high frequency filter comprising: an input portion 112 and first 104, second 106, third 110 resonators are disposed on a top side of a dielectric substrate; wherein at least one of the input portion and first resonator is spaced such

that it is transversely coupled from another resonator portion (the coupling between the input portion 112 and the resonator 104); the first resonator is longitudinally spaced from another resonator (the gap between resonator 104 and 106); a ground plane on a bottom side of the dielectric substrate (col. 1, lines 58-59). Moreover, Ye et al. discloses the filter is a bandpass, microstrip and having a carrier plate (fig. 13).

Ye et al. does not show an enclosure substantially covering the plurality of resonators. However, it is well known in the art to provide an enclosure to cover the filter/resonator structure for protection. Moreover, Yamamura (figs. 2A-2B) discloses a strip line type microwave circuit 3 having an enclosure 30, 19 including a carrier plate 1 to cover the microwave circuit and operates as a pseudo waveguide having a cutoff frequency that is higher than an operating frequency of the microwave circuit.

It would have been obvious to one of ordinary skill in the art to provide an enclosure operates as a pseudo waveguide having a cutoff frequency that is higher than an operating frequency of the microwave circuit in the device of Ye et al. to minimize the noise and stabilize the circuit characteristics (col. 3, lines 55-63).

Regarding to claim 12 and 21, it would have been obvious as a matter of design choice to provide the enclosure with open-ended near the input or output portion in the modified device of Ye et al. since such enclosure structure is well known and such modification does not alter the filter characteristics of the device.

Regarding claim 19, it would have been obvious as a matter of design choice to operate the modified filter device of Ye et al. between 1 GHz and 100 GHz since it requires only a routine skill in the art.

Allowable Subject Matter

Claims 7 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments with respect to claims 1-6, 8, 10, 12-14, and 16-22 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments filed on 4/7/03 have been fully considered but they are not persuasive.

In response to the applicant's argument that Shen resonators are all edged coupled or transverse coupled (see REMARKS, p. 9), the examiner respectfully disagrees.

Shen (see fig. 3A) clearly shows the input portion 35 and output portion 35 are coupled to first and last resonators 33, 33a through transverse gaps 39, 39a, respectively. Moreover, resonators are coupled to each other by longitudinal gaps 38, 38b, 38a. Note that the transverse gaps 39, 39a and longitudinal gaps 38, 38b, 38a are perpendicular to each other which is identical to applicant's claimed invention. Thus, applicant failed to distinguish how applicant's transverse and longitudinal gaps are different from the gaps shows in Shen.

In response to the applicant's argument that Chang et al. also shows transverse coupling only (see REMARKS, p. 9), the examiner respectfully disagrees.

Chang et al. (fig. 1(b)) clearly shows an input portion (the first microstrip line) and a plurality of resonators (the microstrip resonators between the first and the last microstrip lines); wherein at least one of the input portion and first resonator is spaced such that it is transversely coupled from another resonator portion (the transverse gap between first two microstrip lines); the first resonator is longitudinally spaced from another resonator $S_{1,3}$, $S_{n-2,n}$. Applicant's argument is based on figure 2A rather than figure 1(b) as the examiner applied. However, even if figure 2A is considered, Chang et al. clearly shows a longitudinal gap/coupling $S_{i-1,i+1}$ between tank i-1 and tank i+1. Moreover, it should be noted that claim 8 merely recites that input and output portions are transversely spaced from first and last resonators, respectively (which is clearly shown in fig. 1(b)) and resonators being spaced longitudinally each other $S_{1,3}$, $S_{n-2,n}$. Furthermore, it should be noted that applicant's invention (see fig. 2) also shows edge coupling between resonators (i.e, the edge of the resonator 1 is coupled to the edge of the resonator 2). Thus, applicant failed to distinguish how applicant's transverse and longitudinal gaps are different from the gaps shows in Chang et al.

In response to the applicant's argument that Ye et al. shows a resonator 104 having split sections 104a, 104b (REMARKS, p. 10), it should be noted that applicant's claimed invention does not distinguish from the device of Ye et al. since claims merely recite "resonators." It is noted that the features upon which applicant relies (i.e., "non-split resonator section") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seungsook Ham whose telephone number is (703) 308-4090. The examiner can normally be reached on Monday - Thursday from 8:00 A.M. to 5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert J. Pascal can be reached on (703)308-4909. The fax phone numbers for the organization where this application or proceeding is assigned are (703)

872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

Seungsook Ham
Primary Examiner
Art Unit 2817

sh
June 3, 2003